

REMARKS

The present application was filed on January 30, 2001 with claims 1-20. Claims 1, 8 and 15 are independent claims. In the outstanding Office Action dated October 4, 2004, the Examiner has rejected claims 1-20 under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,507,856 to Chen et al. (hereinafter "Chen").

In this response, Applicant traverses the §102(e) rejection for at least the reasons set forth below. Applicant respectfully requests reconsideration of the present application in view of the following remarks.

Claims 1-20 stand rejected under 35 U.S.C. §102(e) as being anticipated by Chen. Chen is directed to a business process automation system for exchanging and merging messages over a network (Chen; column 1, lines 35-36). The system receives an Extensible Markup Language (XML) document and its corresponding Data Type Definition (DTD), and generates a return XML document based on a return document DTD, with certain fields pre-filled based on data from the first XML document (Chen; column 3, lines 52-56). A document merging algorithm generates the return XML document by either sequentially scanning name tags from a template, or recursively traversing a DTD tree node from the template in a tree structure, to match counterparts in an XML document object model (Chen; column 4, lines 40-46). With regard to independent claims 1, 8 and 15, which are of similar scope, the Examiner contends that Chen discloses each and every one of the elements set forth in these claims. Applicant, however, respectfully disagrees with the Examiner's contention.

Claims 1, 8 and 15 define a method, apparatus and article of manufacture, respectively, for forming a document model for constructing a semantically and syntactically valid document. Chen fails to disclose a mechanism for forming a document model, and furthermore fails to disclose constructing a semantically and syntactically valid document. Rather, Chen describes a system for creating a return document template having certain fields that are pre-filled with information extracted from a received XML document. The invention set forth in the subject claims is thus not reasonably analogous to the system of Chen.

Even assuming, *arguendo*, that Chen is found to be related to the claimed invention, Applicant asserts that Chen fails to disclose each and every element set forth in the subject claims, as is required in order to sustain an anticipation rejection. Specifically, claim 1 recites:

A method of forming a document model for constructing a semantically and syntactically valid document, the method comprising the steps of:

beginning with a root tag, creating a tag element corresponding to a tag in the document to be constructed, the tag element including information relating to the corresponding tag;

associating one or more model elements with the tag element, each model element being a child of the tag element and representing an alternative to the information relating to the corresponding tag; and

for each of the one or more model elements, generating a semantically and syntactically valid sub-tree of elements as a child of the one or more model elements based at least in part upon a structure of the document to be constructed under one or more predetermined conditions.

The Examiner contends that the item “<PurchaseOrder>” shown in FIG. 1 of Chen is analogous to a root tag, and that the item “<!ELEMENT O PurchaseOrder ( . . . )>” shown in FIG. 2 of Chen is analogous to a tag element, as set forth in claim 1 (Office Action; page 2, last paragraph to page 3, first paragraph). The Examiner further contends that the items “(PONumber Purpose Data Type . . . )” shown in FIG. 2 of Chen are analogous to model elements, as recited in claim 1. Applicant respectfully disagrees with the Examiner’s contentions and submits that Chen fails to disclose associating one or more model elements with a given tag element.

Chen clearly defines each of the items set forth in FIG. 2, namely, “<!ELEMENT O . . . >” through “<!ELEMENT 25 . . . >”, as a data element, which is perhaps most closely analogous to a *Value Element*, defined in the present specification as a component used to store information regarding the current data value and to describe the data type or format of a corresponding tag (Specification; page 7, lines 14-17). Model elements, in contrast, are defined in the present specification as a component of the document model used to capture at least a portion of the semantics of the corresponding tag (Specification; page 7, lines 18-20). Each model element represents one possible alternative to the information included in the corresponding tag, and may thus be thought of as a decision point in the recursive mapping procedure used for building the document model (*see, e.g.*, Specification; page 8, lines 22-24). Chen fails to disclose any mechanism which can be reasonably analogized to this feature of the claimed invention.

Chen also fails to disclose generating a semantically and syntactically valid sub-tree of elements as a child of one or more model elements based at least in part upon a structure of the document to be constructed under one or more predetermined conditions, as required by claims 1,

8 and 15. The Examiner contends that such a feature of the claimed invention is disclosed in FIG. 3 of Chen, wherein the Examiner analogizes reference numeral 40 (item 0) as the model element, and each of item numbers 1-7 as a child of the model element (Office Action; page 3, paragraph 3). Applicant respectfully disagrees with this contention. As stated above, Chen fails to disclose the use of model elements. Rather, each item number 1 through 7 shown in FIG. 3 of Chen is most closely analogized to a tag element representing a sub-tag of item 0 (PurchaseOrder), which the Examiner has previously analogized as a root tag.

The Examiner contends that the designations “\*” and “?” representing repeatable data elements (Chen; FIG. 3, items 5, 6, 12 and 13) and optional data elements (Chen; FIG. 3, items 16 and 18), respectively, are analogous to the “predetermined conditions” under which the semantically and syntactically valid document is created, although the Examiner fails to point out where in Chen it is disclosed that a semantically and syntactically valid document is even created, as is required by the claimed invention. Applicant respectfully disagrees with this contention and asserts that the repeatable data elements and optional data elements are not analogous to the “predetermined conditions” set forth in the subject claims. Instead, the repeatable data elements merely represent data that is used in other portions of the return XML document (e.g., shared by other tags). Likewise, optional data elements represent data that is not required for processing the XML document (Chen; column 5, lines 24-26).

For at least the above reasons, Applicant asserts that claims 1, 8 and 15 are patentable over the prior art of record. Accordingly, favorable reconsideration and allowance of these claims are respectfully solicited.

With regard to claims 2-7, which depend from claim 1, claims 9-14, which depend from claim 8, and claims 16-20, which depend from claim 15, Applicant submits that these claims are also patentable over the prior art of record by virtue of their dependency from their respective base claims, which are believed to be patentable for at least the reasons given above. Furthermore, one or more of these claims define additional patentable subject matter in their own right.

For example, claims 2, 9 and 16 further define the step of generating a semantically and syntactically valid sub-tree of elements as including the steps of assigning a tag element corresponding to a tag in the document when the tag associated therewith includes a single sub-tag, the tag element being a child of the model element corresponding to the sub-tree, associating one

or more model elements with the tag element, each of the model elements being a child of the tag element and representing an alternative to the information relating to the corresponding tag, and repeating the steps of assigning a tag element and associating one or more model elements to the tag element until all sub-tags of the tag have been mapped to the document model. The Examiner contends that Chen discloses such additional features in FIGS. 1-3. Applicant respectfully disagrees with this contention and asserts that Chen fails to disclose any model elements, and furthermore fails to disclose associating one or more model elements with the tag element, each of the model elements being a child of the tag element. The Examiner, in this regard, seems to equate the model elements of the subject claims with items 8 through 12 (ItemNO, Quantity, Unit, UnitPrice and ProductService) shown in FIGS. 2 and 3 (Office Action; page 3, last paragraph). However, each of the items to which the Examiner refers is not an alternative child content of the tag element relating to the corresponding tag Lineltem (item 5). Rather, each of these items (8-12) is a sub-tag referenced by the corresponding parent tag (5) and is a required data element of the corresponding tag, and thus non-analogous to the model elements of the claimed invention.

Likewise, claims 3, 10 and 17 further define the process of forming the document model as including the step of associating “a group element with a tag element corresponding to a tag in the document when the tag associated therewith includes a plurality of sub-tags, the group element being a child of the model element corresponding to the sub-tree” (emphasis added). Since Chen fails to disclose any counterpart to the model element of the claimed invention, Chen also fails to disclose this additional association step set forth in the subject claims. The Examiner often seems to use the terms “tag element,” “model element,” and/or “group element” interchangeably, when they are in fact separate and distinct entities, as defined in the present specification, at least on page 7, lines 6-25. A group element is a child of a model element, which is a child of a tag element. Chen fails to disclose the precise hierarchical arrangement of elements (tag elements, model elements, group elements, value elements) and associated tags/sub-tags recited in the subject claims.

For at least the reasons given above, claims 2-7, 9-14 and 16-20 are believed to be patentable over the prior art of record, not merely by virtue of their dependency from their respective base claims, but also in their own right. Accordingly, favorable reconsideration and allowance of these claims are respectfully requested.

Application Serial No. 09/774,261

In view of the foregoing, Applicant believes that pending claims 1-20 are in condition for allowance, and respectfully request withdrawal of the §102 rejection.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Wayne L. Ellenbogen", with a long horizontal flourish extending to the right.

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